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Odor Report (1955)

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ANDROSCOGGIN RIVER STUDIES

ANNUAL REPORT

1955

by

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Lewiston, Maine

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SUMMARY

1. Odor Conditions. The river odor level in Lewiston-Auburn during June, August (except the first few days) and September was so low as to be scarcely noticeable. During July there were times when the odor intensity in the vicinity of the river and canals reached #3 level and was objectionable. Hydrogen sulphide was present at the Dams for about six weeks but area covered was small and usually confined to the vicinity of the tailrace. With but one exception hydrogen sulphide was absent in the downtown areas. The dominant odors were "musty" and "mouldy". There were two brief periods of wide coverage of odor observed at Station six.

2. Surface Conditions. The condition of the water surface south of Lewiston Falls was better than last year. Foam, film and scum were usually whitish or light brown.

3. Thermal Conditions. The mean hourly temperatures were above the seventy-one year average for June, July and August; September was slightly below the average. July approached the highest temperatures on record. Water temperatures May through September were higher than the thirteen year average. At Gulf Island Dam twenty feet below the surface the average daily temperature July 18-24 was 26.26°C.

4. River Flows. River flows were fairly uniform during most of the season; the minimum weekly average was 2087 c.f.s. (G.I.D.). One rapid increase to about 4000 c.f.s. weekly average occurred in August.

5. Pollution Factors. The average pollution factor for the Decree control period is 1.33, for the entire control period 1.38. The weekly quotas did not exceed the Decree minimums and usually were much lower.

FINAL REPORT ON THE ANDROSCOGGIN RIVER ODOR in the LEWISTON-AUBURN AREA 1955

Introduction. Daily estimations of the Androscoggin river odor were begun on June 10, 1955 and were continued through October 1, 1955. The daily reports are numbered one to one hundred and fourteen inclusive.

The arrangement of this final report, odor terms, calculation of odor intensity numbers and station locations are the same as those used in the previous twelve annual reports.

During July River Odor conditions in downtown Lewiston and Auburn at times were of higher intensity than those experienced during the previous two years. These conditions were due to the almost record high air temperatures during July and to the very rapid fall in the volume of water flowing in the river.

River flows measured at Gulf Island were somewhat lower than the long range average for the summer months.

A special feature of this report is the inclusion of figures illustrating the Lewiston data for each of the previous twelve years.

Daily Report Data. The daily reports contain data on

(a) Air temperatures
(b) General Weather Conditions
(c) Direction of the Wind
(d) Water passing over Lewiston Falls
(e) Surface conditions of the river. (Lewiston-Auburn area)
(f) Types of odor originating in the river water
(g) Intensities of the river odor in the air
(h) Conditions at Gulf Island and Deer Rips Dams (occasionally)

This report contains summaries of the daily data and comparisons with some previous years.

Odor Observation Stations. The location of the odor observation stations were the same as those used in 1943 and each succeeding year.

Air Temperatures. The temperatures of the air recorded in the daily reports usually were those prevailing at station six when the observations were begun. They may vary one or two degrees plus or minus from the official weather record for that hour.

The official Mean Hourly Temperatures for Lewiston for June through September are recorded in Table #1.

TABLE #1
MEAN HOURLY AIR TEMPERATURES (F.)

Year	June	July	August	September
1955	63.41	72.76	69.54	58.83
1954	62.34	66.39	64.88	57.25
1953	64.9	69.5	68.9	60.6
71 year average	63.18	68.99	66.74	59.21

The mean hourly temperatures for the four summer months averaged 3.41 degrees higher than the same period in 1954 and 1.6 degrees higher than the 71 year summer average.

July's average temperature was the second highest registered for the month in the previous thirty-five years. It It was 6.4 degrees higher than July 1954 and 3.8 degrees higher than the 71 year average for the month.

Precipitation. The precipitation recorded for July and September was considerably below the 81 year average; June rainfall was about average while that during August was much above the long range median. The data for Lewiston are given in Table #2.

TABLE #2
PRECIPITATION (INCHES) LEWISTON

Year	June	July	August	September
1955	3.31	1.60	6.56	1.16
1954	5.83	3.94	4.96	8.58
1953	0.80	3.71	3.47	2.27
81 year average	3.41	3.54	3.12	3.58

Direction of the Wind. During the time of the odor observations the directions of the air flow were,

North	11 days	South East	1 day
North East	1 day	South S. West	6 days
North West	21 days	South S. East	3 days
North N. West	12 days	West	4 days
North N. East	2 days	West N. West	1 day
South	28 days	East	1 day
South West	10 days	East N. East	1 day
South West to West	1 day	Variable	9 days

Southerly winds were much more frequent this summer than in 1954.

Water Flowing over the Lewiston Falls. The volume of water allowed to pass over the Lewiston Falls during the past summer was very small compared with that recorded for the same period of 1954. At the time of observation the volume was stated to be

Moderate	14 days
Small	16 days
Zero	82 days

During the latter part of August some of the rocks at the Falls were a very bright rusty red, due, no doubt, to the iron content of the water which had passed over them. This coloration occurs every summer but for some reason it was somewhat brighter this year and was the subject of considerable local comment. The concrete walls at Gulf Island Dam were very black during most of the summer and unusually so during late August and September.

"Depth" Color of the River Water. The brownish depth color of the river water turned to its usual summer blackish tone on July 10, and remained in this condition through September.

River Surface Conditions. Foam, film and scum are nearly always present in the region of the North and South Bridges but usually do not cover large areas of the water surface unless water is flowing over the Falls. This summer the foam generally was of a non-persistent type and the surface of the water below South Bridge seldom contained visible film or scum.

Floating sludge was not observed south of Gulf Island Dam and none has been recorded in this section of the river since 1944. However, there does not appear to be much reduction in amount of floating sludge seen north of

mile #3 in the Pool.

Blue-Green Algae and Vorticella. Only very minor amounts of Blue-Green algae were observed during the past season. Those seen, as usual, were associated with small pieces of floating sludge. Whitish Vorticella-zoogleal masses were seldom seen this year. A few small areas were visible on the rocks just below Gulf Island Dam during the latter part of August.

Odor Intensities. The odor number and terms used in this and the daily reports are

0. No river odor
1. Very faint
2. Faint
3. Distinct
4. Decided
5. Very strong.

The peak of the river odor which was reached during the week of July 7 was chiefly due to the spilling over the Falls during the shut-down of the local mills. The unusally high atmospheric and water temperatures and somewhat lower than average river flows which prevailed during July, at times, produced odor which was noticeable in the downtown shopping areas. Although the intensity number did not exceed three at the time of observations it was sufficient to produce some comment in the local press. This year's experience has demonstrated that the public is becoming more sensitive to and more critical of the conditions that produce the odor.

Employing odor intensity numbers as the basis for classifying the odor experience of the past thirteen years, indicate, in the order of decreasing odor intensity, the years as 1944, 1947, 1943, 1945, 1946, 1948, 1952, 1949, 1951, 1950, 1955, 1953, 1954.

TABLE #3

Odor Intensity Frequencies 1955, 1954, 1944.
Days per Month

	#1			#2			#3			#4			#5		
	55	54	44	55	54	44	55	54	44	55	54	44	55	54	44
Station #1															
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	3	0	0	2	0	0	1	0	0	0	0	0	0
August	0	0	2	0	0	1	0	0	5	0	0	0	0	0	0
Sept.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Station #2															
June	18	13	8	0	1	11	0	0	3	0	0	0	0	0	0
July	31	18	12	0	0	10	0	0	7	0	0	5	0	0	0
August	12	12	0	0	1	11	0	0	17	0	0	9	0	0	0
Sept.	7	11	5	0	0	18	0	0	5	0	0	0	0	0	0
Station #3	11	4	2	8	13	14	1	2	7	0	0	0	0	0	0
June	11	4	2	8	13	14	1	2	7	0	0	0	0	0	0
July	8	24	5	19	7	10	4	0	12	0	0	7	0	0	1
August	26	19	00	2	8	8	0	0	21	0	0	11	0	0	0
Sept.	19	15	3	0	8	18	0	3	12	0	0	0	0	0	0
Station #4															
June	17	16	4	2	2	13	0	0	5	0	0	5	0	0	0
July	19	23	11	12	1	9	0	0	8	0	0	19	0	0	0
August	18	17	0	4	3	1	0	0	19	0	0	4	0	0	0
Sept.	19	10	5	0	2	12	0	0	14	0	0	0	0	0	0
Station #5															
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	2	0	4	0	0	3	0	0	1	0	0	0	0	0	0
August	0	0	1	0	0	10	0	0	3	0	0	0	0	0	0
Sept.	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0
Station #6															
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	2	0	4	0	0	2	0	0	2	0	0	0
August	0	0	0	0	0	5	0	0	12	0	0	10	0	0	2
September	0	0	0	0	0	4	0	0	8	0	0	0	0	0	0
Station #7															
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Station #8															
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sept.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

General Odor Coverage. When the river odor is observed at station six it is recorded as "general odor coverage". The points of origin are the Deer Rips and Gulf Island Dams and the Pool. Table #4 records the data for 1955. This year the general odor coverage occurred when the water temperatures in the Pool were about 26°C.

TABLE #4

GENERAL ODOR COVERAGE

1955

Date	Highest Intensity*	Type	Time Period
July 29	#2	Pig-pen	Early morning
30	#2	Mouldy	Early morning

* at Station #6

TABLE #5

GENERAL ODOR COVERAGES
STATION #6 DAYS PER MONTH

	1955	1954	1953	1952	1944
June	0	0	0	0	0
July	2	0	0	3	5
August	0	0	0	7	15
September	0	0	0	5	8
Total Days Per Month	2	0	0	15	28

Odor Types. Pig-pen. This odor is normally present above Mile #2 in the Pool but during the past three summers it seldom has been observed at the North and South Bridges in Lewiston, and then only in August.

Hydrogen Sulphide. Hydrogen Sulphide was probably present in the air at North Bridge on July 29. The analysis of

the water in the canal system was negative but olfactory evidence indicated a trace of sulphide in the air. This appearance was at the time of the seasons peak water temperatures.

Hydrogen sulphide was present in analytically determined amount at the Gulf Island and Deer Rips Dams from July 7 to August 11, 1955. The area covered by this gas was comparatively small and at times limited to the tailrace. The reduction in the amount of hydrogen sulphide produced is due, of course, to the smaller quantities of sulphite waste liquor discharged to the river during the critical season.

Musty. This odor was the dominant one in river south of Deer Rips Dam. However, it seldom was present during July when the prevailing odor was classified as mouldy. The odor described as musty is very difficult to define but as it relates to the Androscoggin river there is always present an "undertone" suggestive of some of the constituents present in sulphite waste liquor.

Mouldy. The most noticeable change in the odor pattern during 1955 was the persistent presence of a mouldy odor during the entire month of July. This may have been due to increased activity of the moulds but if so, the prevailing pH of the river water was not near the optimum range for these organisms.

TABLE #6

FREQUENCY OF RECORDED ODOR TYPES
DAYS PER MONTH

Type of Odor	June					July				
	1955	1954	1953	1952	1944	1955	1954	1953	1952	1944
Pig-pen	0	0	0	0	17	0	0	16	10	26
Hydrogen Sulfide	0	0	0	0	2	1	0	0	3	14
Mouldy	1	0	3	0	4	25	0	2	12	0
Musty	17	19	15	12	11	4	31	17	12	2
Sulfite	0	0	0	0	0	0	0	0	0	0
Fishy	0	0	0	0	0	0	0	0	0	0
Sour	0	0	0	0	0	0	0	0	1	1
Earthy	0	0	4	1	0	9	1	9	2	0
Woody	0	2	0	0	0	0	2	0	0	0

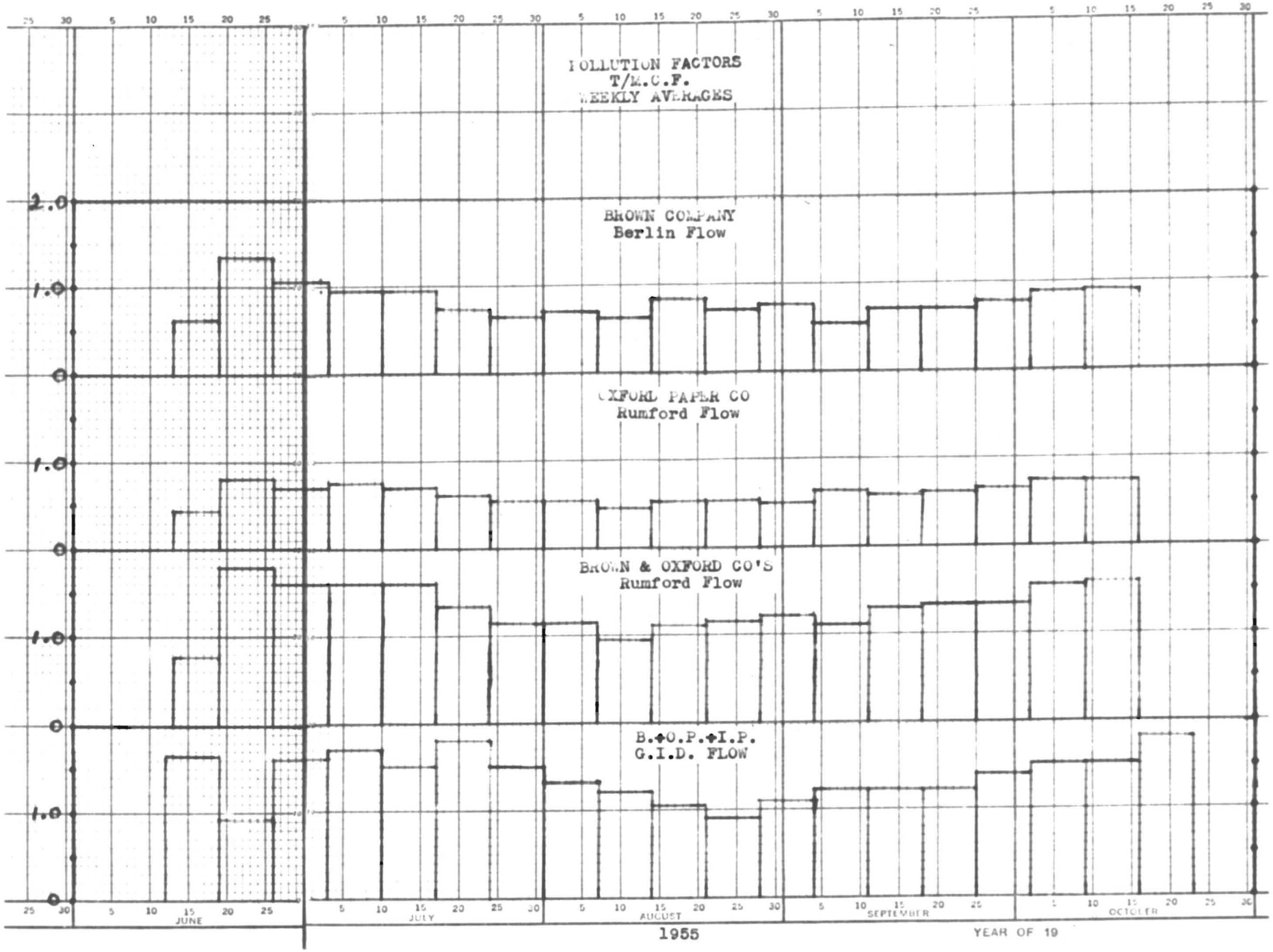
Type of Odor	August					September				
	1955	1954	1953	1952	1944	1955	1954	1953	1952	1944
Pig-pen	8	2	7	28	30	0	0	1	19	22
Hydrogen Sulfide	0	0	0	14	30	0	0	0	0	15
Mouldy	4	0	0	9	9	0	0	0	4	10
Musty	16	29	24	8	3	24	27	25	12	4
Sulfite	0	0	0	0	3	0	0	0	0	0
Fishy	0	0	0	0	0	0	0	0	0	7
Sour	0	0	1	0	0	0	0	0	1	0
Earthy	2	0	6	7	0	5	0	4	7	0
Woody	0	1	0	0	0	0	2	0	0	0

TOTALS

Type of Odor	1955	1954	1953	1952	1944
Pig-pen	8	2	24	57	95
Hydrogen Sulfide	1	0	0	17	61
Mouldy	30	0	5	22	23
Musty	61	106	81	44	20
Sulfite	0	0	0	0	3
Fishy	0	0	0	0	7
Sour	0	0	1	2	1
Earthy	16	1	23	17	0
Woody	0	7	0	0	0

Pollution Load Factors. The Pollution Factors, (P.F.) tons of finished sulphite pulp per million cubic feet of river water, which are recorded in Table P.L.F.#1 were calculated on a weekly basis for four major locations along the river, Berlin, New Hampshire, Rumford, Maine, North Turner Bridge, and Gulf Island Dam. The factors are compensated for time of passage but not for reduction of load due to microbial oxidation etc. Brown Company factors include sulphite waste liquor discharged direct to the river, direct from the lagoons and seepage from the lagoons to the river. The planned release of sulphite waste liquor from the lagoon at Jay, Maine, during the week of August 21 is included in the pollution factors. The Berlin guage data were used for Brown Company factors, the Rumford guage for Oxford Paper Company factors and the Gulf Island Dam guage was employed to obtain the factors for North Turner Bridge and Gulf Island Dam.

The average pollution factor for the period June 13 to October 2 inclusive is 1.33 based on water passing Gulf Island Dam. For the entire control period the factor is 1.38. The weekly quotas granted this year did not produce pollution factors which exceeded the minimum permitted by the Decree of 1948.


POLLUTION FACTORS
T/M.C.F.
WEEKLY AVERAGES
BROWN COMPANY
Berlin Flow
OXFORD PAPER CO
Rumford Flow
BROWN & OXFORD CO'S
Rumford Flow
B.&O.P.&I.P.
G.I.D. FLOW
2.0
1.0
0
1.0
0
1.0
0
1.0
0
25 30 5 10 15 20 25
JUNE
5 10 15 20 25 30
JULY
5 10 15 20 25 30
AUGUST
5 10 15 20 25
SEPTEMBER
5 10 15 20 25 30
OCTOBER
1955
YEAR OF 19

P.L.F. #1

Weekly Pollution Factors

1955

Week End	Brown Co. Berlin Flow	Oxford Paper Company Rumford Flow	Brown and Oxford	Brown Co. Oxford Paper I.P.Co. G.I.D. Flow N.T.B	G.I.D.
June 19*	0.62	0.43	0.77	0.92	1.66
26*	1.35	0.79	1.80	1.57	0.92
July 3	1.06	0.68	1.62	1.62	1.57
10	0.94	0.76	1.62	1.69	1.70
17	0.93	0.69	1.57	1.52	1.50
24	0.73	0.59	1.33	1.45	1.79
31	0.65	0.53	1.15	1.23	1.51
Aug. 7	0.70	0.53	1.13	1.20	1.33
14	0.65	0.47	0.95	0.92	1.21
21	0.83	0.52	1.09	1.04	1.05
28	0.71	0.52	1.15	1.06	0.90
Sept. 4	0.77	0.49	1.22	1.23	1.10
11	0.53	0.63	1.12	1.24	1.21
18	0.70	0.58	1.30	1.32	1.21
25	0.71	0.61	1.33	1.45	1.23
Oct. 2	0.76	0.64	1.35	1.44	1.39
9	0.88	0.73	1.56	1.53	1.50
16	0.91	0.74	1.59	1.94	1.52
Average Factor June 15 to Oct. 16 incl.	0.80	0.61	1.31	1.35	1.35

* No restrictions

TABLE P.L.F. #1 A

Pollution Load Factor
(Season average at Gulf Island Dam)

Year	Period	P.L.F.
1955	June 13 to Oct. 20	1.38**
1954	June 14 to Sept.19	1.00**
1953	June 29 to Oct. 11	1.60**
1952	June 15 to Sept.30	1.85**
1951	June 18 to Sept 18	1.75**
1950	June 16 to Sept 17	1.90**
1949	June 16 to Sept 29	1.88*
1948	June 17 to Sept 30	2.03
1947	June 19 to Oct. 2	2.07
1946	June 13 to Sept 26	2.38
1945	June 14 to Sept 27	2.09
1944	June 15 to Sept 28	2.60
1943	July 1 to Sept 16	1.90

* Does not include International Paper Company pollution load.

** Includes International Paper Company pollution load.

Production Data. Table P.L.F.#2 records the sulphite pulp equivalent of the waste liquor discharged or seeped through to the river during the period of control. All discharges at Chisholm of waste liquor in excess of one hundred tons per week were authorized by the Administrator. The releases of sulphite waste liquor from the lagoon at Berlin were approved by the Administrator.

Table P.L.F. #2

Sulphite Pulp Equivalent
of
Sulphite Waste Liquor

Discharged to the River

1955

Week Ending 7:00 A.M.	Brown Co. * Tons	Oxford Paper Company Tons	International** Paper Company Tons
June 20	672.7	1591	625.96
27	2144.2	1647	625.99
July 4	1527.3	1260	99.75
11	1085.2	1065	92.49
18	1058.9	899	98.45
25	838.1	741	98.84
Aug. 1	752.2	649	99.73
8	771.5	652	99.97
15	852.4	779	98.94
22	1087.4	978	214.85
29	926.9	803	99.65
Sept. 5	985.5	671	99.41
12	712.9	866	99.89
19	920.9	788	99.92
26	902.1	792	99.41
Oct. 3	964.1	838	99.33
10	1010.2	924	187.43
17	1014.4	890	344.30
20***	665.0	624	252.06
Total Tons June 13 to Oct. 20 inclusive	18891.9	17457	3536.37

* includes leakage and discharge from lagoon
** includes discharge from lagoon.
*** Four days

Water Temperatures. The temperature of the water passing Gulf Island Dam was higher from May through September than the thirteen year average for each of these five months. Compared with 1954 the degree centigrade increase during 1955 was

May	3.4	July	4.2	September	4.3
June	2.9	Aug.	3.4		

The daily average water temperature for the week beginning July 11 was 26.26° and for the following week was 26.04°. These temperatures were for water at the Gulf Island Dam at a depth of about twenty feet. The highest temperature recorded in the Lewiston Canal was 26.0 on August 4.

TABLE T.1

WATER TEMPERATURES

GULF ISLAND DAM
Monthly Averages(x)

Year	May(x)	June	July	August	September
1955*	14.0	20.5	25.5	24.6	19.9
1954*	10.6	17.6	21.3	21.2	15.6
1953*	10.5	19.5	24.2	22.7	21.3
Thirteen Year Aver.	11.9	19.3	24.0	23.5	19.7
1955 comp. with Aver.	+ 2.1	+ 1.2	+ 1.5	+ 1.1	+ 0.2

(x) Based on Thursday reports
* June through September average of daily reports

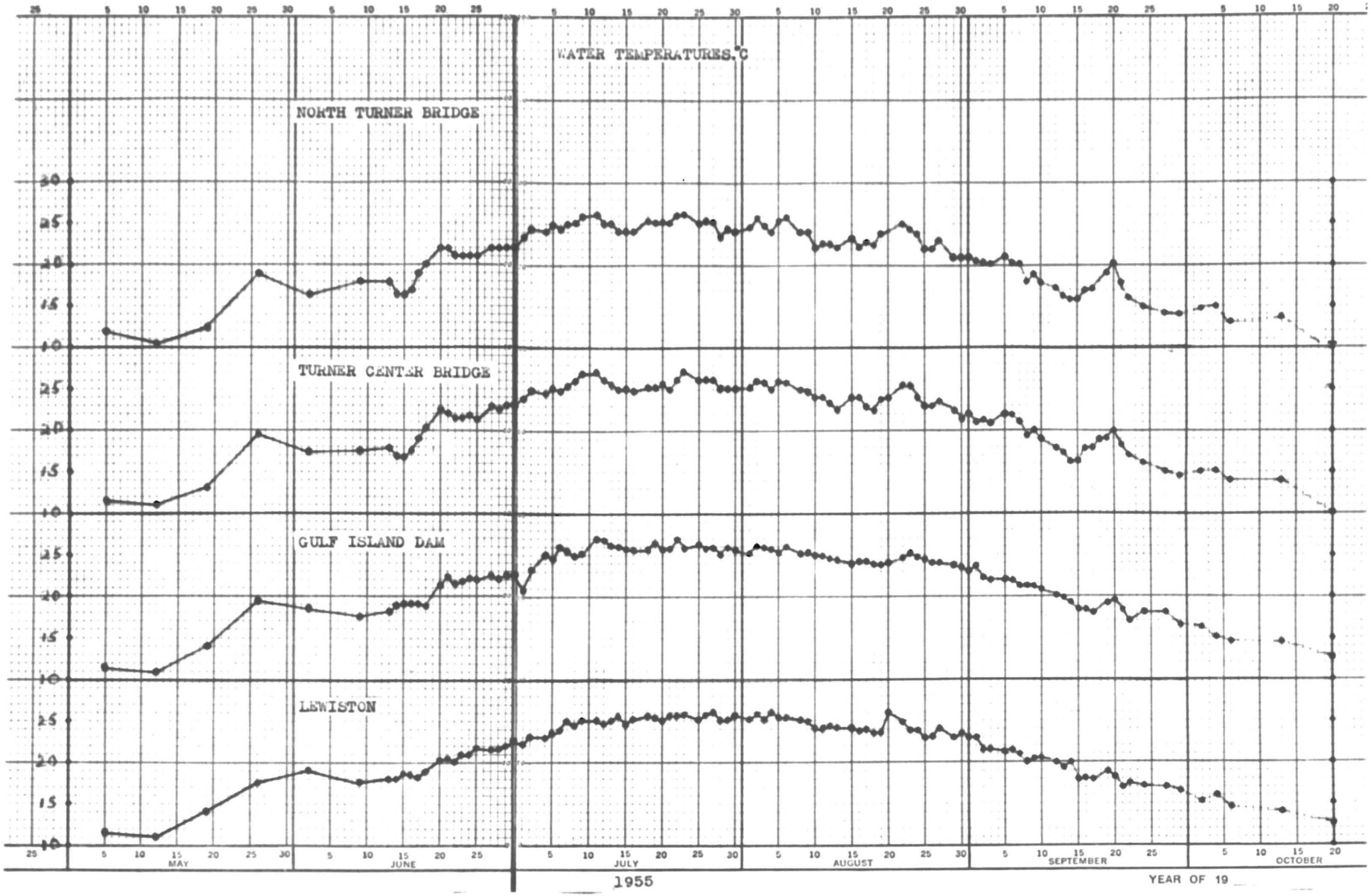

WATER TEMPERATURES, °C
NORTH TURNER BRIDGE
TURNER CENTER BRIDGE
GULF ISLAND DAM
LEWISTON
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
1955
YEAR OF 19

TABLE T.2.

WATER TEMPERATURES

GULF ISLAND DAM
Average Daily Temperature

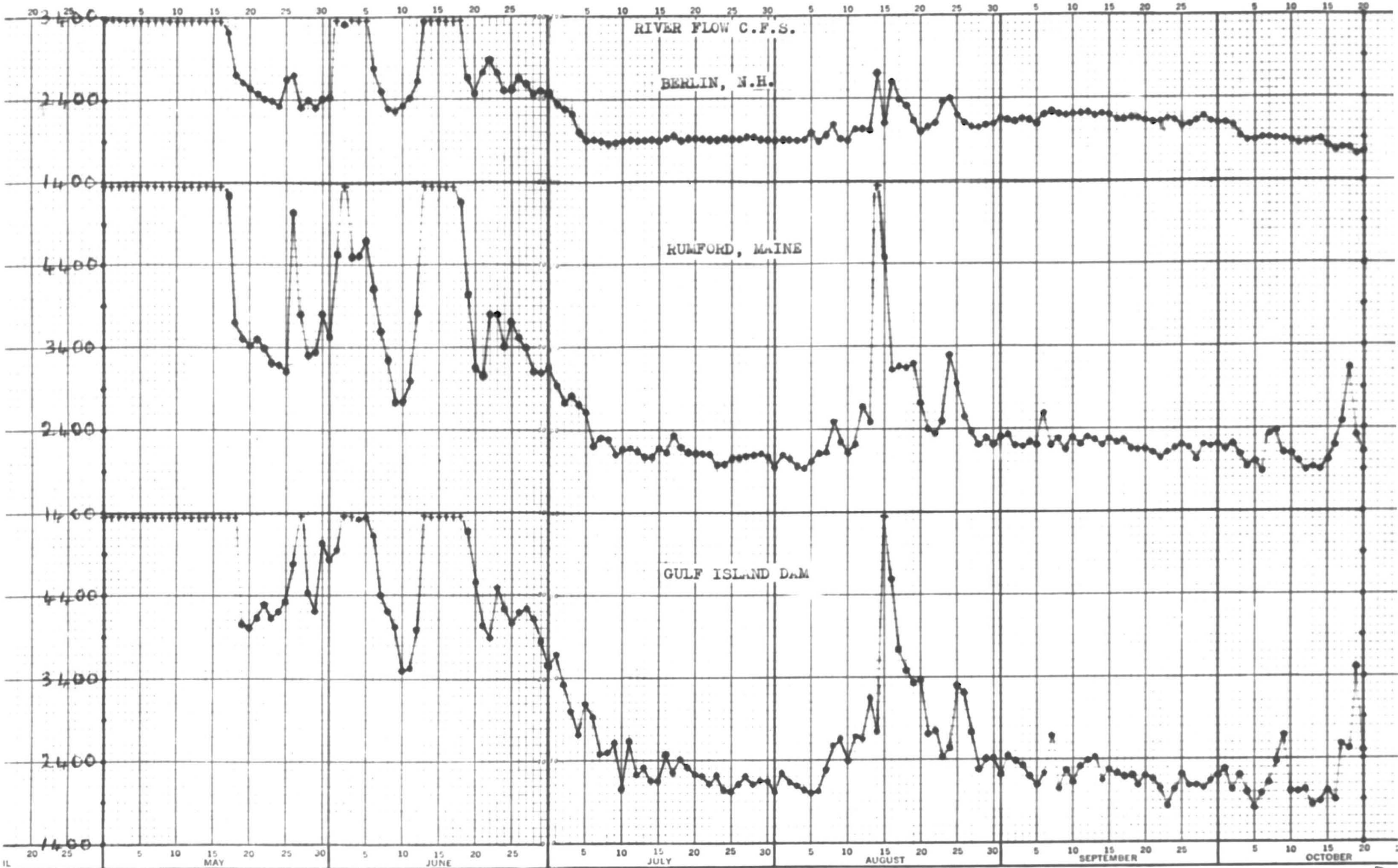
1955

Week beginning	Temp C	Week beginning	Temp C
June 6	17.5 *	Aug. 1	25.70
13	18.81	8	24.87
20	21.83	15	24.04
27	22.23	22	24.53
		29	23.02
July 4	25.18	Sept. 5	21.44
11	26.26	12	19.03
18	26.04	19	18.45
25	25.76	26	16.90

* Not by machine

River Flows. The volume of water flowing in the Androscoggin River during July, August, and September was fairly uniform and did not fall below 2087 c.f.s. (weekly averages, at Gulf Island Dam). October averages were somewhat lower. Only one marked increase in flow occurred during the summer and this was due to above normal precipitation early in August.

Figures illustrating the daily flows at the three guage stations, Berlin, New Hampshire, Rumford, Maine and Gulf Island Dam are included in this report.



1955

YEAR OF 19 ___

Androscoggin River Flows

C.F.S.

May 1955

Date	Berlin	Rumford	Gulf Island Dam
1	4270	8390	11010
2	4791	8790	10410
3	5101	9370	10590
4	5245	9610	10780
5	5120	9640	11650
6	5317	11030	12860
7	8777	12390	13480
8	9759	13280	14580
9	10617	15340	15710
10	10225	14680	16590
11	8918	13100	15300
12	7094	11160	13380
13	5129	8860	11460
14	4369	6970	9500
15	3978	6180	9040
16	3788	5680	7240
17	3229	5240	6060
18	2694	3700	5660
19	2610	3530	4060
20	2538	3440	4010
21	2463	3510	4140
22	2416	3380	4290
23	2390	3240	4130
24	2325	3180	4220
25	2644	3110	4340
26	2701	5040	4770
27	2306	3800	5640
28	2379	3310	4440
29	2296	3360	4200
30	2412	3830	5040
31	2427	3540	4830

Androscoggin River Flows

C.F.S.

June 1955

Date	Berlin	Rumford	Gulf Island Dam
1	3687	4540	4950
2	3321	5670	6490
3	3503	4490	6480
4	3609	4510	5330
5	3433	4690	5360
6	2774	4120	5140
7	2495	3590	4400
8	2288	3260	4190
9	2261	2760	4010
10	2329	2750	3490
11	2414	2990	3530
12	2631	3830	3980
13	3346	7690	6660
14	3687	6000	9850
15	5731	6650	6910
16	5553	7050	7560
17	4687	6260	7040
18	3512	5160	6090
19	2662	4030	5180
20	2450	3160	4550
21	2720	3040	4040
22	2876	3800	3890
23	2723	3790	4480
24	2495	3400	4230
25	2494	3720	4060
26	2648	3510	4180
27	2566	3390	4240
28	2455	3100	4100
29	2496	3070	3860
30	2452	3140	3560

Androscoggin River Flows

C.F.S.

July 1955

Date	Berlin	Rumford	Gulf Island Dam
1	2361	2940	3670
2	2289	2730	3310
3	2236	2810	2980
4	2011	2700	2700
5	1907	2610	3070
6	1912	2200	2920
7	1888	2290	2470
8	1861	2270	2490
9	1877	2090	2610
10	1894	2160	2050
11	1909	2180	2630
12	1897	2140	2220
13	1900	2080	2310
14	1915	2080	2150
15	1884	2170	2150
16	1929	2120	2460
17	1943	2330	2240
18	1880	2170	2410
19	1931	2110	2310
20	1907	2100	2230
21	1904	2100	2220
22	1895	2080	2110
23	1888	1960	2220
24	1917	1980	2040
25	1905	2040	2010
26	1904	2050	2110
27	1935	2070	2220
28	1934	2090	2110
29	1902	2110	2150
30	1905	2060	2140
31	1901	1940	2010

Androscoggin River Flows

C.F.S.

August 1955

Date	Berlin	Rumford	Gulf Island Dam
1	1924	2090	2230
2	1890	2040	2130
3	1887	1950	2080
4	1907	1930	2040
5	1976	2010	2000
6	1877	2110	2030
7	1946	2120	2270
8	2072	2470	2560
9	1904	2250	2640
10	1889	2110	2370
11	2024	2220	2670
12	2024	2670	2640
13	2016	2470	3140
14	2709	7550	2730
15	2107	4470	6780
16	2586	3120	4570
17	2371	3160	3730
18	2304	3150	3470
19	2131	3190	3340
20	1985	2720	3360
21	2054	2400	2710
22	2093	2350	2750
23	2356	2490	2430
24	2395	3280	2540
25	2181	2950	3280
26	2109	2540	3220
27	2048	2360	2730
28	2049	2210	2280
29	2071	2280	2410
30	2081	2220	2420
31	2154	2510	2230

Androscoggin River Flows

C.F.S.

September 1955

Date	Berlin	Rumford	Gulf Island Dam
1	2131*	2340	2440
2	2109*	2190	2380
3	2144*	2180	2330
4	2134*	2240	2200
5	2078*	2210	2080
6	2207	2570	2240
7	2236	2200	2680
8	2200	2280	2050
9	2180	2150	2280
10	2197	2290	2140
11	2222	2210	2320
12	2236	2300	2390
13	2184	2260	2420
14	2217	2200	2150
15	2171	2270	2270
16	2141	2240	2240
17	2137	2260	2190
18	2152	2160	2210
19	2137	2140	2080
20	2117	2150	2210
21	2087	2110	2160
22	2105	2050	2050
23	2140	2100	1840
24	2121	2160	2040
25	2047	2190	2250
26	2062	2160	2080
27	2110	2020	2080
28	2159	2200	2050
29	2104	2170	2140
30	2078	2200	2200

*The guage appears to be registering too low, 50 to perhaps 100 c.f.s.

Androscoggin River Flow

C.F.S.

October 1955

Date	Berlin	Rumford	Gulf Island Dam
1	2092	2140	2270
2	2056	2210	2040
3	1936	2070	2210
4	1884	1940	2000
5	1887	1980	1810
6	1902	1870	1970
7	1913	2330	2130
8	1897	2360	2360
9	1887	2110	2670
10	1868	2080	2010
11	1836	2000	2000
12	1851	1880	2040
13	1853	1930	1850
14	1883	1880	1870
15	1812	2000	2010
16	1757	2180	1900
17	1777	2460	2560
18	1789	3120	2520
19	1707	2310	3510
20	1725	2120	2490
21	1765	2020	2260
22	1734	2260	2120
23	1718	2030	2250
24	1710	1920	2080
25	1630	2070	1970
26	1659	2020	1960
27	1571	1970	2010
28	1549	1880	1940
29	1586	1790	2000
30	1591	1780	1880
31	2226	6430	2820

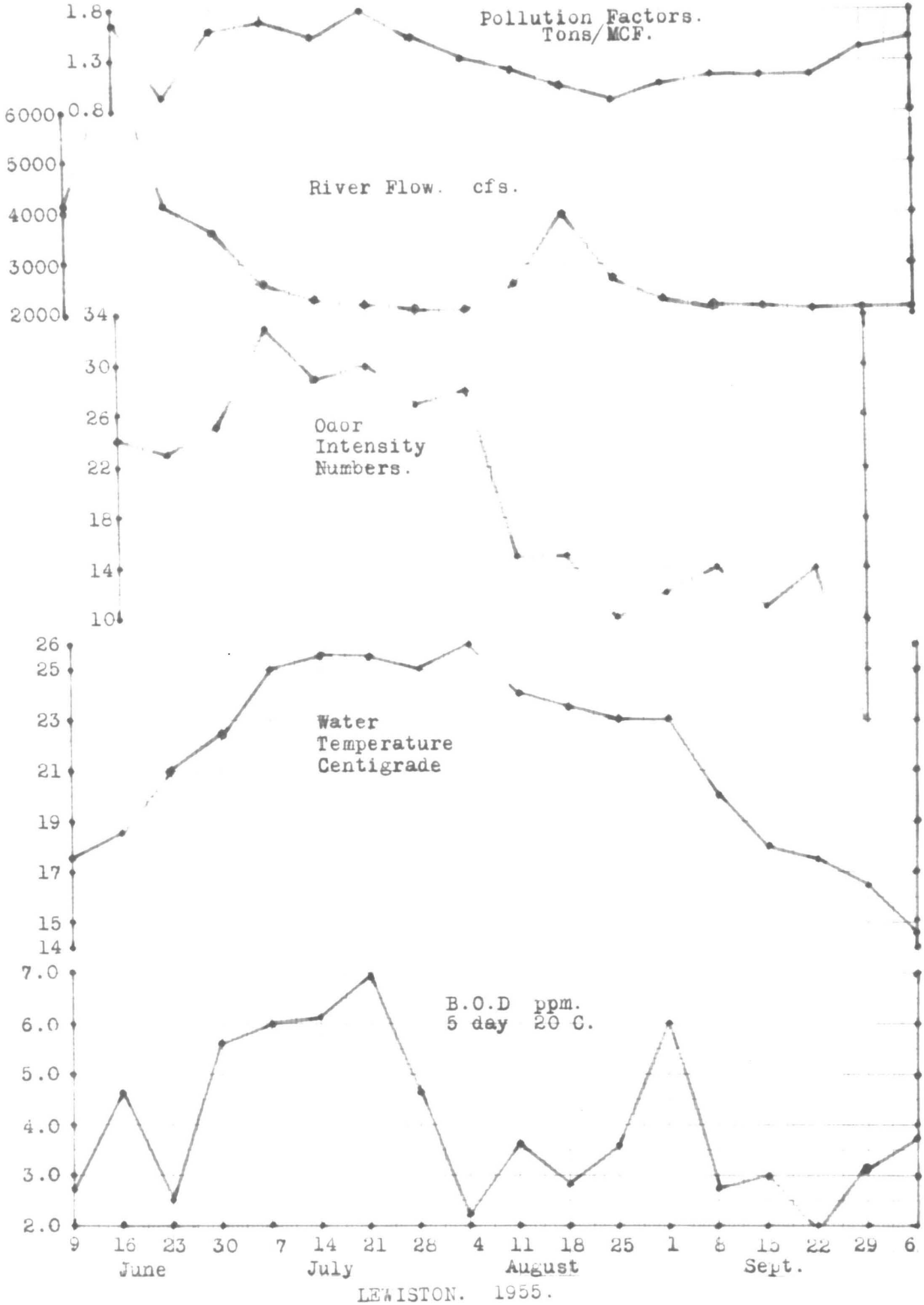
TABLE #7

Lewiston, Maine. 1955

Date	Water Temp C.	B.O.D. 5 day p.p.m.	Odor Intens. Number**	River Flow*** c.f.s.	Compens. Tons per M.C.F.*
(Thursday)					
June 2	19.0	3.25	-	5497	
9	17.5	2.70	-	4106	
16	18.5	4.57	24	7041	1.66
23	21.0	2.48	23	4204	0.92
30	22.5	5.61	25	3674	1.57
July 7	25.0	6.00	33	2616	1.70
14	25.5	6.10	29	2309	1.50
21	25.5	6.92	30	2220	1.79
28	25.0	4.60	27	2107	1.51
Aug. 4	26.0	2.20	28	2111	1.33
11	24.0	3.58	15	2679	1.21
18	23.5	2.78	15	3994	1.05
25	23.0	3.52	10	2747	0.90
Sept. 1	23.0	6.05	12	2344	1.10
8	20.0	2.73	14	2256	1.21
15	18.0	2.98	11	2267	1.21
22	17.5	1.77	14	2087	1.23
29	16.5	3.14	3	2123	1.39
Oct. 6	14.5	3.74	-	2164	1.50

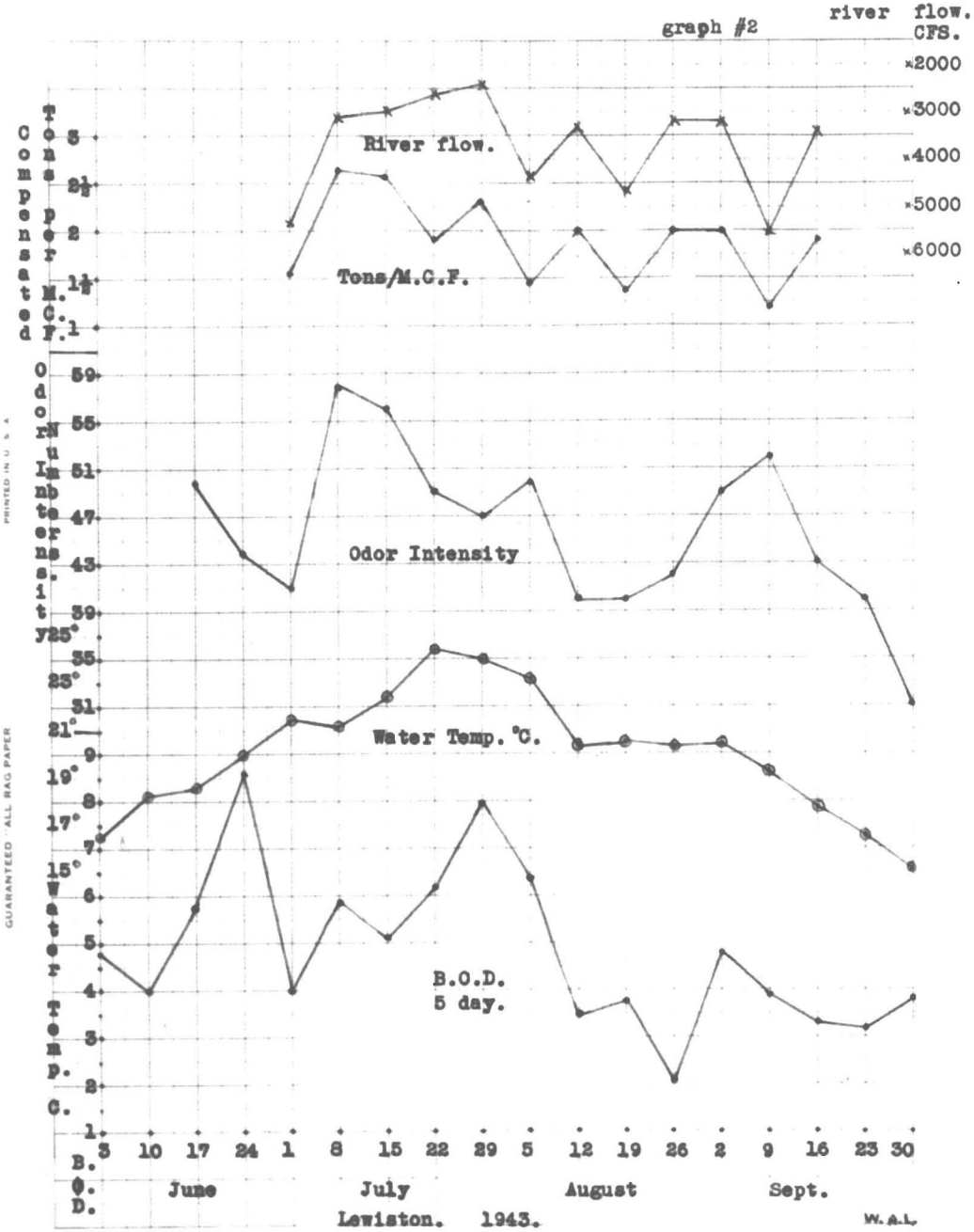
* Weekly average ending following Monday 7:00 a.m. Gulf Island Dam Guage
** Weekly average ending Thursday
*** Weekly average ending Sunday, midnight.

Lewiston 1955. The analytical and observation data for the downtown Lewiston-Auburn area are summarized in Table #7 and illustrated in the accompanying figures. The river odor during June, August (except the first few days) and September was of such a low level that it was scarcely noticeable. The very high temperatures and small precipitation which prevailed during July did produce conditions which at times gave rise to odor levels (3) which were objectionable in the vicinity of the river and canals. Wide coverage odor was recorded only twice at

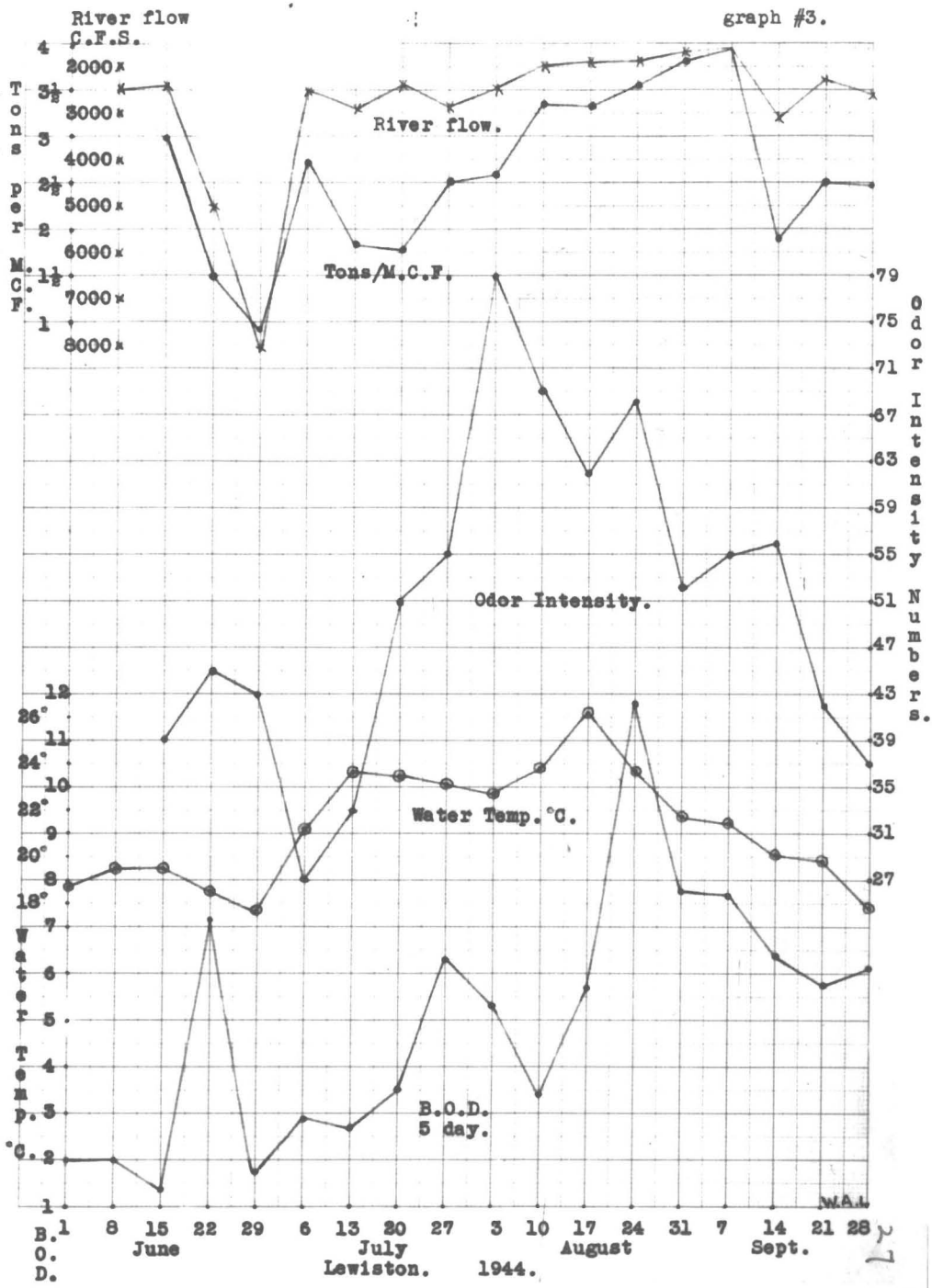


LEWISTON. 1955.

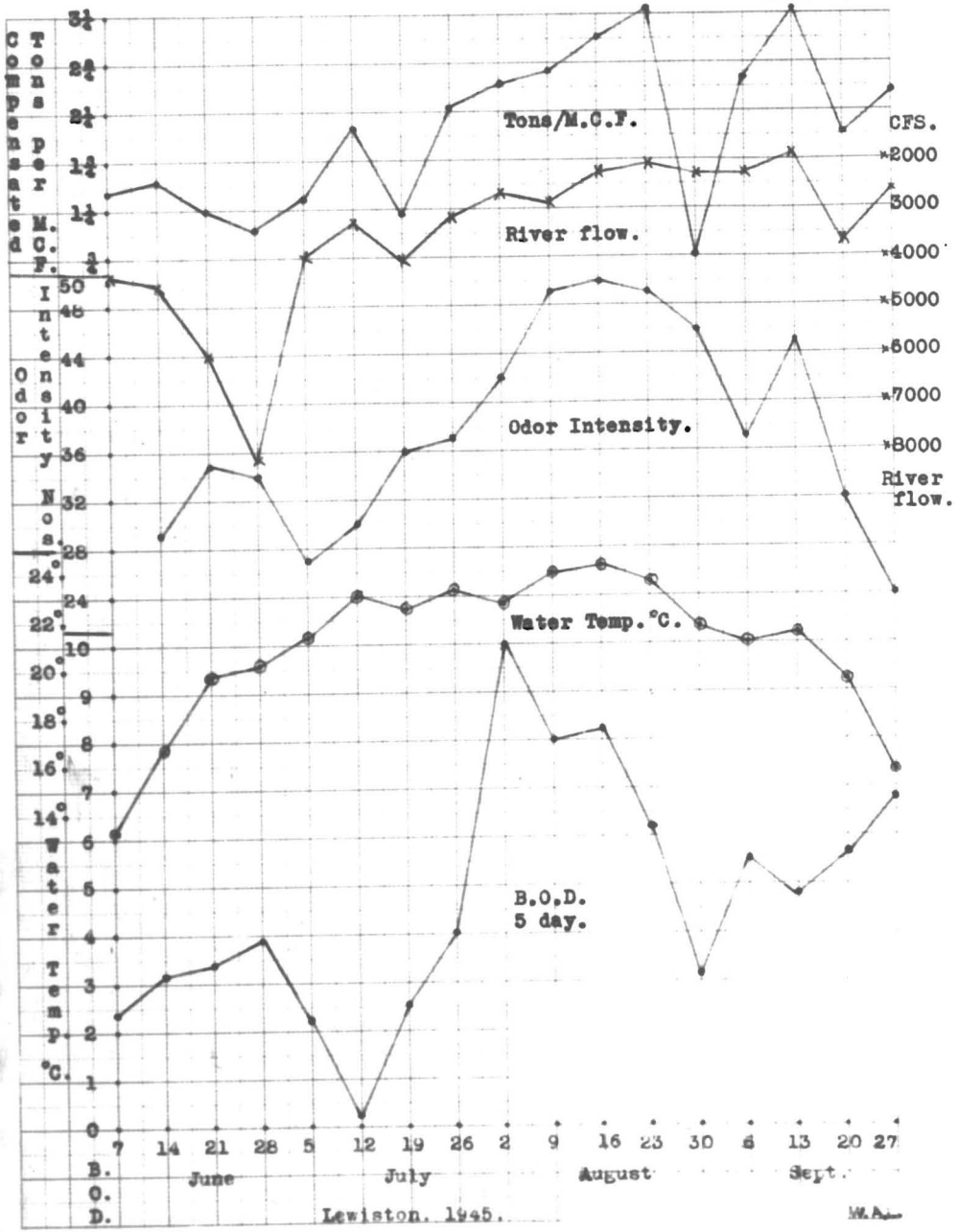
graph #2



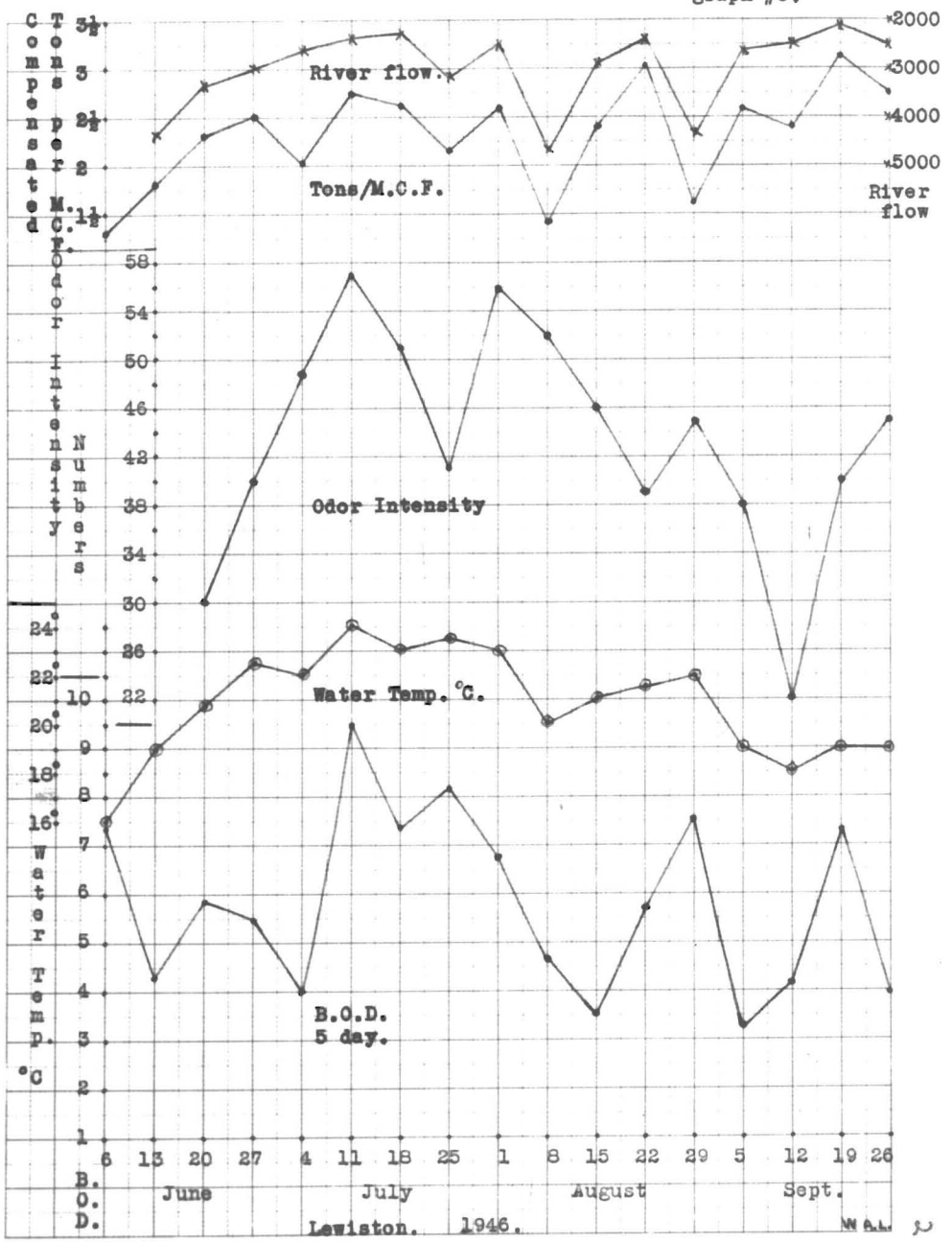
graph #3.



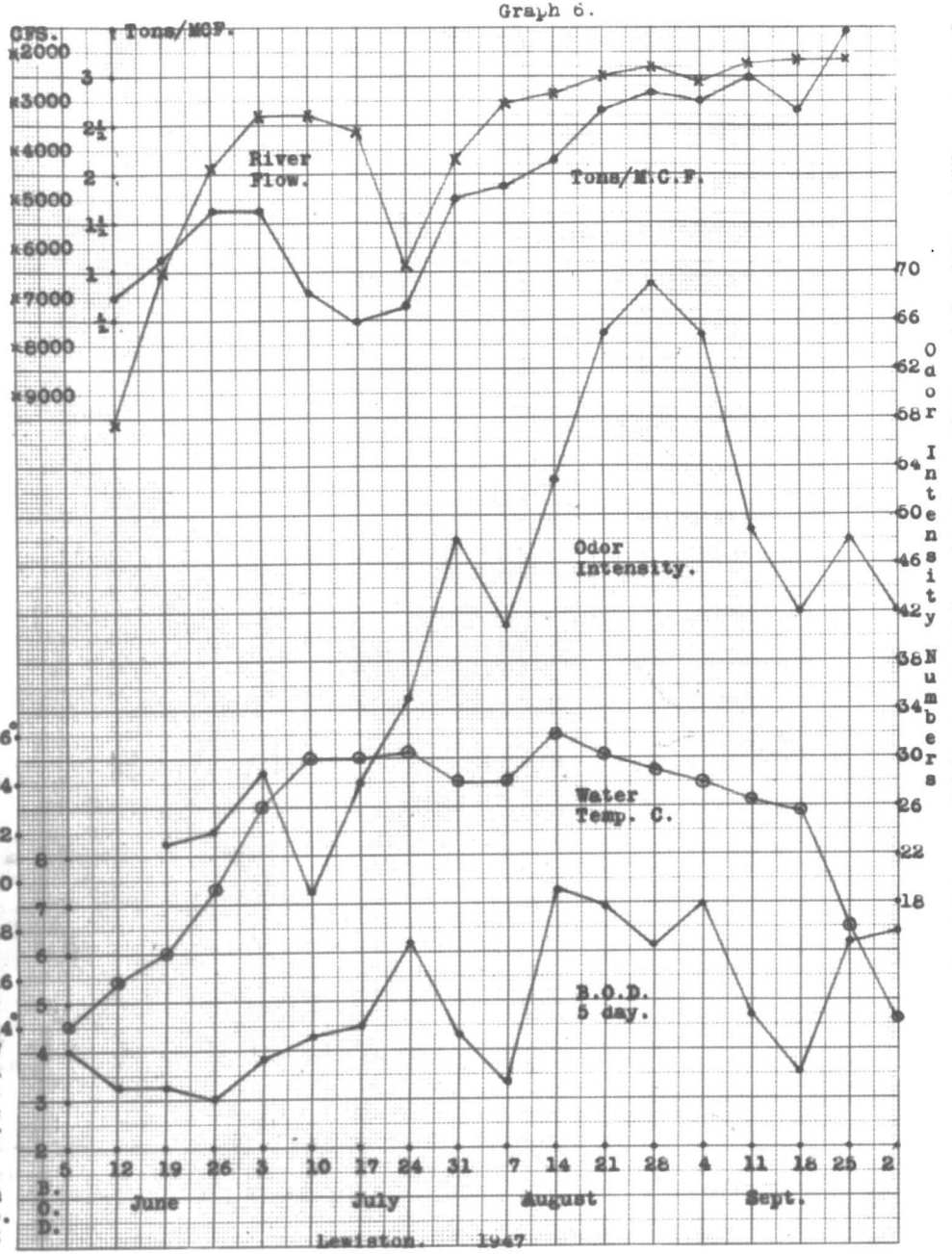
graph #4.

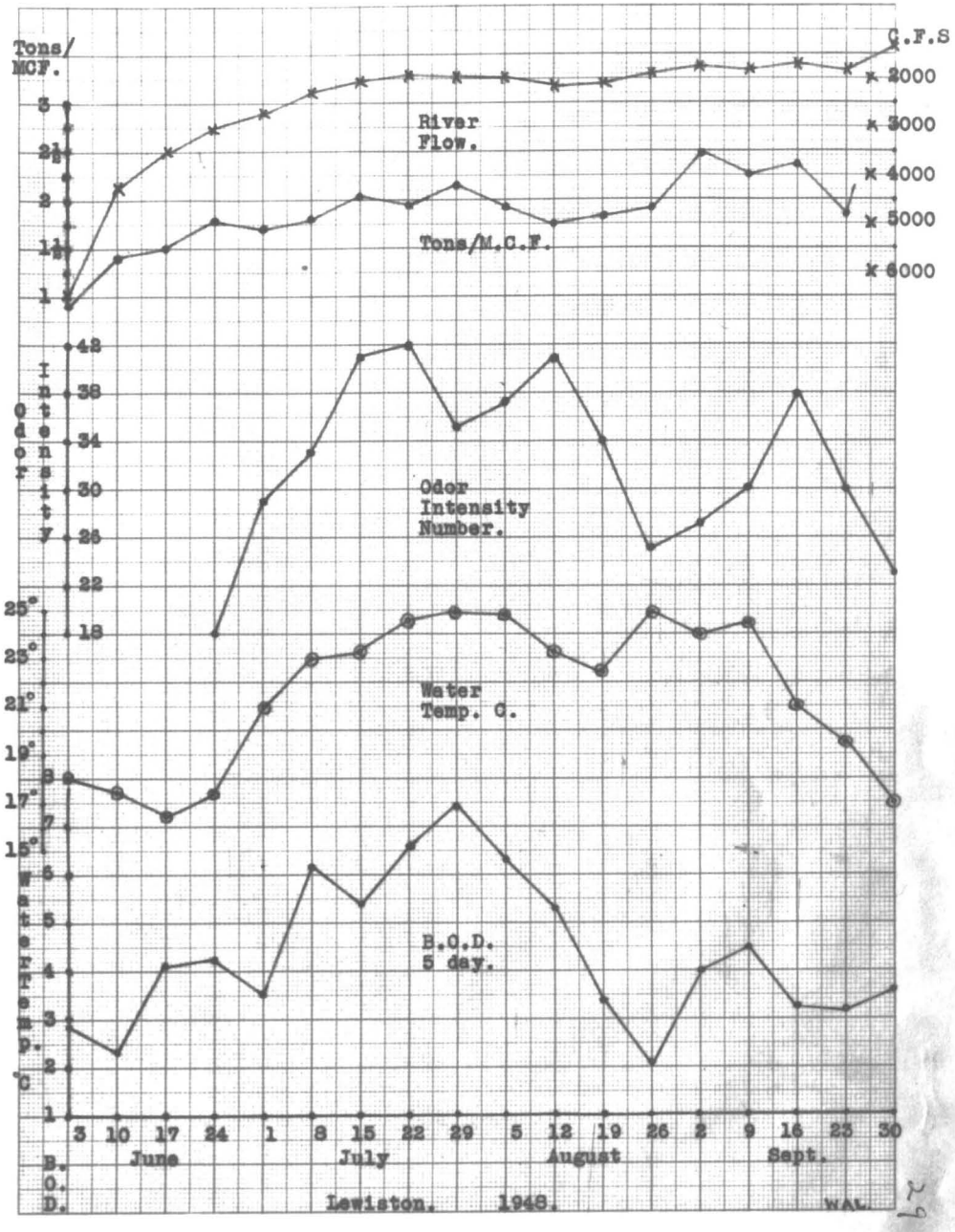


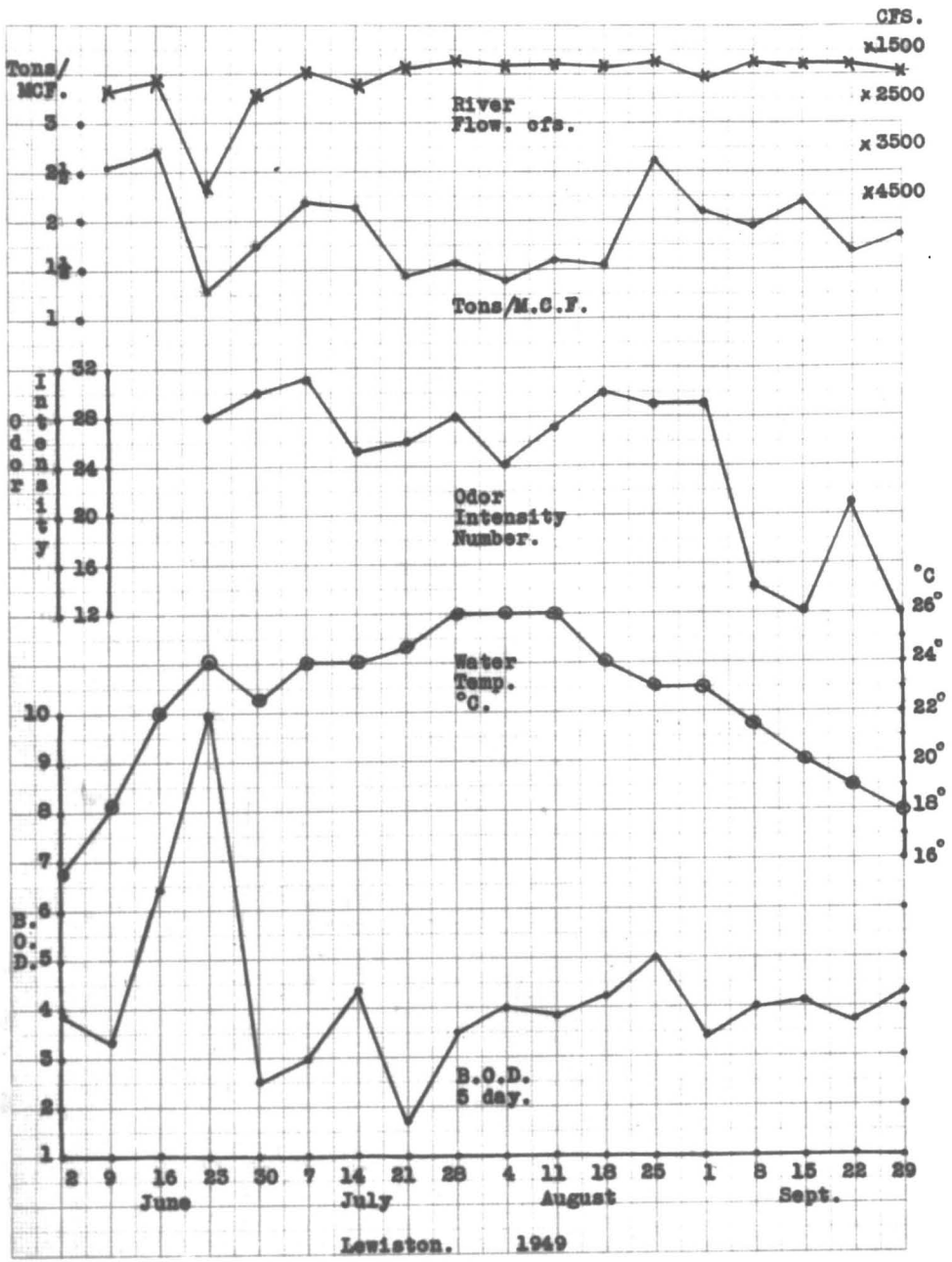
graph #5.

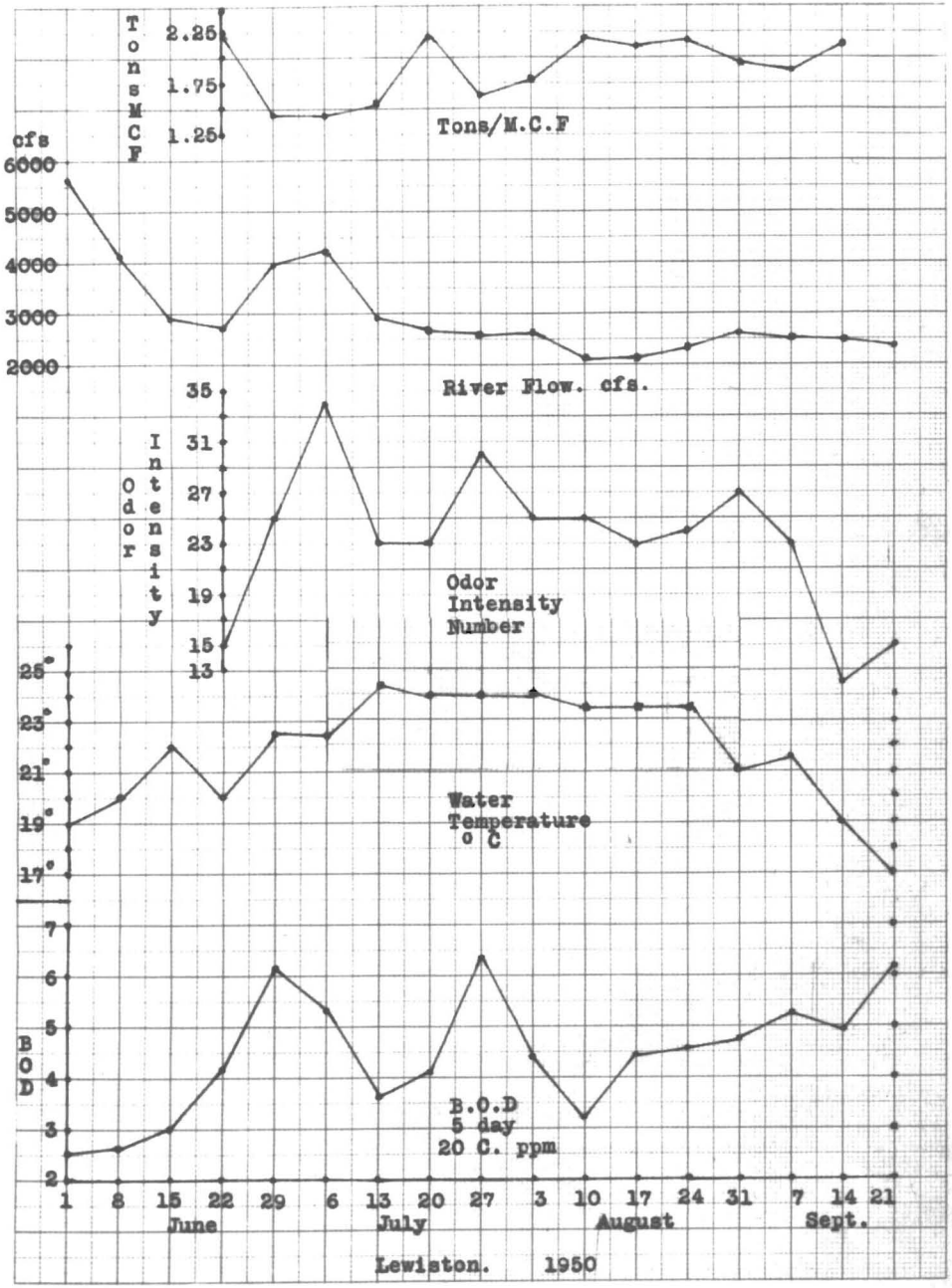


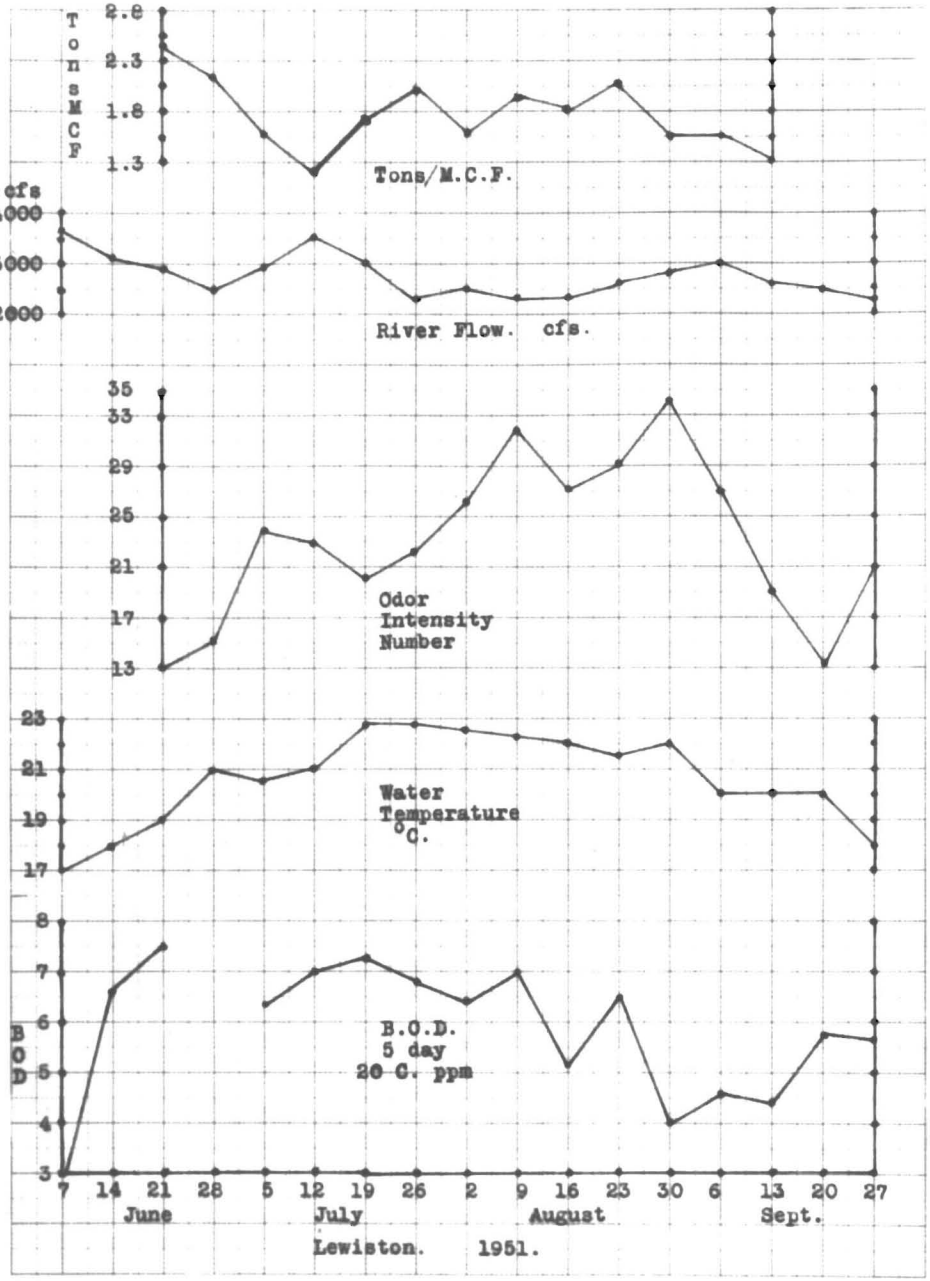
Graph 6.

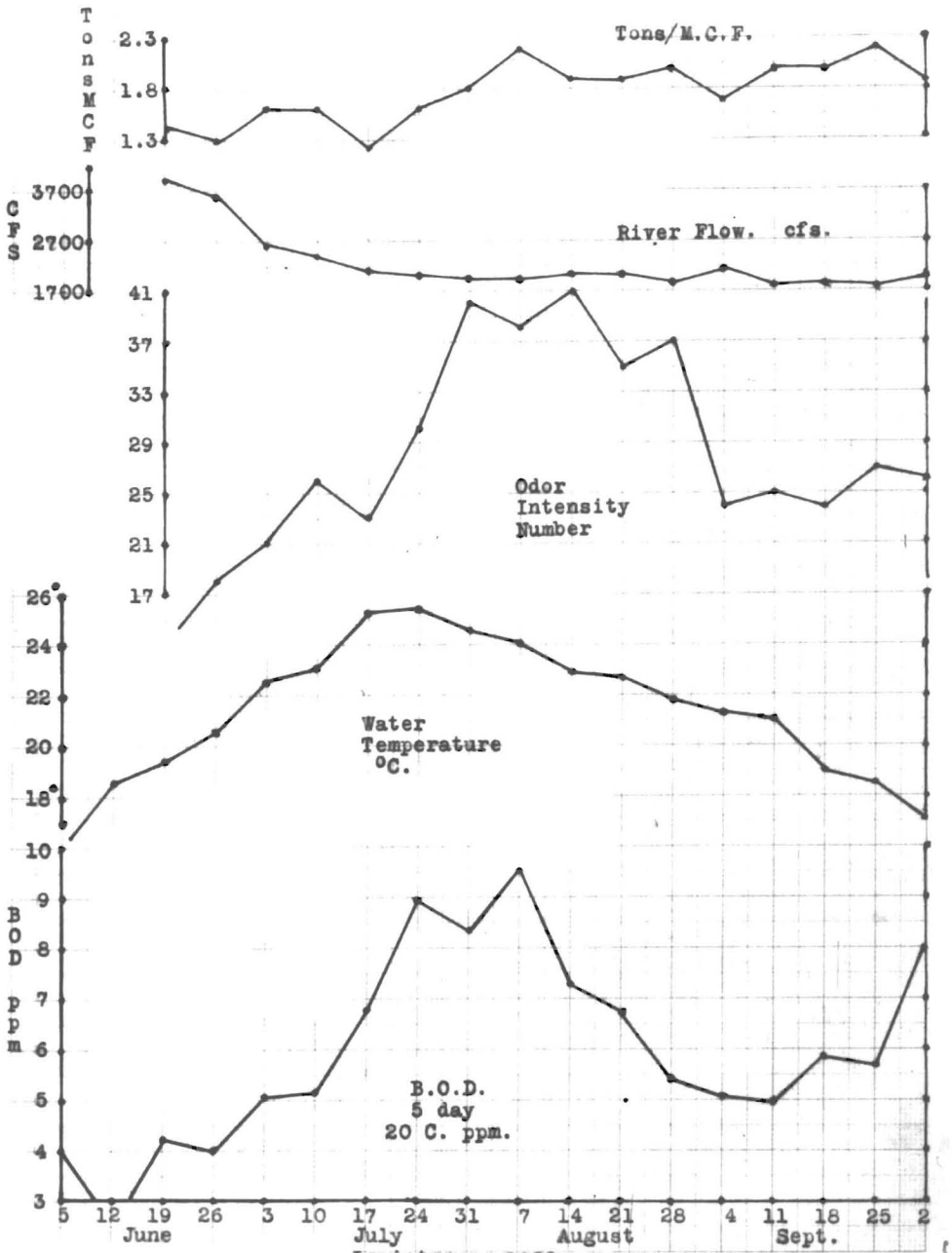












station six.

Hydrogen sulphide was not present with one possible exception and pig-pen was observed only on a relatively few days. Mouldy odor was dominant during July, and musty for the other summer months.

Water surface conditions were cleaner this year than in 1954, due in a large measure to the relatively few days when water was permitted to flow over the Lewiston Falls.

The shopping center on Main Street near the river and below Deer Rips Dam did not open until August; the odor level in that region was very low during August and September.

The graphic recording of the 1955 Lewiston data is accompanied by illustration for each of the preceding twelve years. Comparison of the 1944 figures with those of 1955 reveals the extent of the progress made "over the years".